





# Foreword

## How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall. This snowfall accumulates high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are viewed in conjunction with snowpack data to prepare runoff forecasts. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data and narratives describing current conditions.

Streamflow forecasts are cooperatively generated by Soil Conservation Service and National Weather Service hydrologists. Forecasts become more accurate as more data affecting runoff becomes known. For this reason, forecasts are issued that reflect three future precipitation conditions — Below Normal, Average, and Above Normal. These forecasts are termed reasonable minimum, most probable, and reasonable maximum. Actual streamflow can be expected to fall between the lower and upper forecast values eight out of ten years.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation, temperature, and other parameters are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

## For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. Because of the limited space, snow survey measurements are not published in monthly reports. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola, Suite 200, Phoenix, AZ 85012
Colorado (New Mexico)	2490 West 26th Ave., Denver, CO 80211
Idaho	304 North 8th Street, Room 345, Boise, ID 83702
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Second Floor, Reno, NV 89502
Oregon	1220 Southwest 3rd Ave., 16th Floor, Portland, OR 97204
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	360 U.S. Court House, Spokane, WA 99201
Wyoming	Federal Building, 100 East "B" Street, Casper, WY 82602

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 547, Portland, OR 97209.

Published by other agencies:

Water Supply Outlook Reports prepared by other agencies include: California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento, CA 98502; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A 3V1; Alberta, Saskatchewan, and N.W.T. — The Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta, T3C 1A6.

# **Nevada Water Supply Outlook**

**and**

## **Federal - State - Private Cooperative Snow Surveys**

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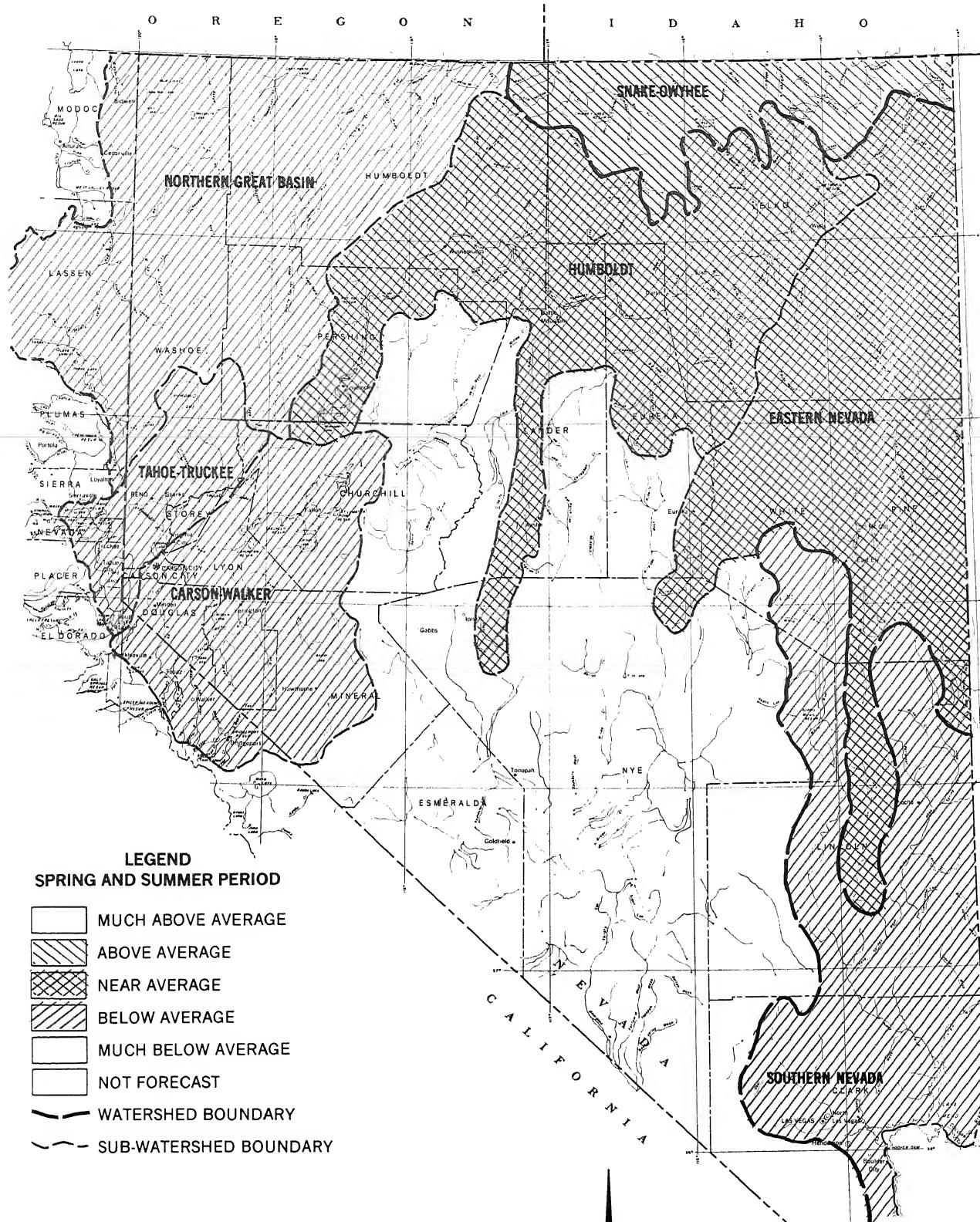
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## STREAMFLOW PROSPECTS NEVADA

0 25 50 75 100 MI

0 50 100 150 KM

## GENERAL OUTLOOK

### SUMMARY:

WESTERN NEVADA SNOWPACK ACCUMULATIONS ARE AVERAGE WHILE NORTHERN AND EASTERN NEVADA ARE SIGNIFICANTLY ABOVE AVERAGE. PRECIPITATION AT MOST SNOTEL SITES WAS BELOW AVERAGE FOR DECEMBER, BUT IS NEAR AVERAGE FOR THE WATER YEAR. RESERVOIR STORAGE IN THE SEVEN MONITORED RESERVOIRS AND LAKES IS NEAR AVERAGE.

### SNOWPACK:

Snowpack conditions in the Tahoe, Truckee, Carson, and Walker basins are average as of January 1. Snow accumulations in northern and eastern Nevada are slightly above to significantly above average. The Snake Basin is 10-15 percent above January 1 averages while the Owyhee, Humboldt and Eastern Nevada basins are much above average. The Northern Nevada basin is approximately 10 percent above average.

### PRECIPITATION:

December precipitation totals ranged from slightly below average to much above average. The Snake and Owyhee basins were near average for the month. Water year accumulations in the Tahoe-Truckee basin is near average while all other basins are above to much above average. The Northern Great and Humboldt basins are approximately 120 percent of January 1 averages. The Carson-Walker basin is 115 percent of average.

### RESERVOIRS:

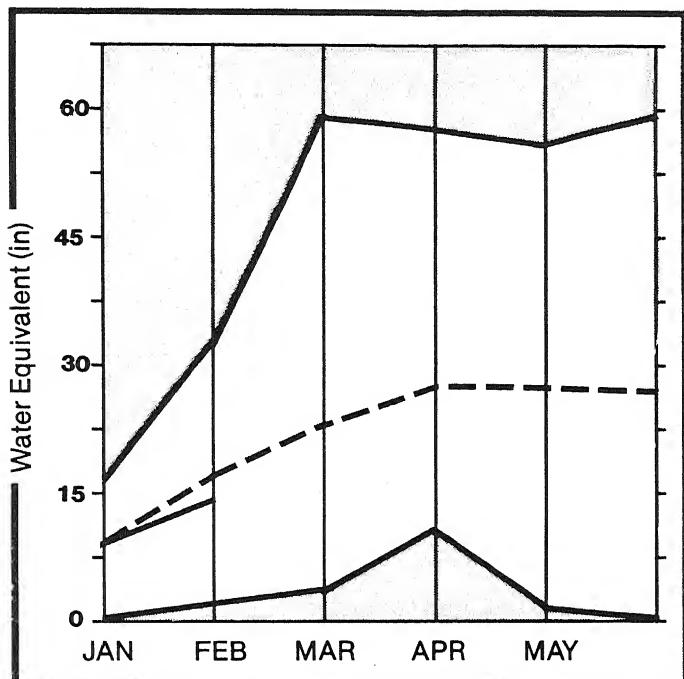
Water storage is good throughout the state. Storage facilities in the Tahoe-Truckee, Humboldt, and Snake-Owyhee basins are well above average for January 1. Storage in the Carson-Walker basin is approximately 15 percent below average. Total storage in the seven major lakes and reservoirs was 792,000 acre feet.

### STREAMFLOW:

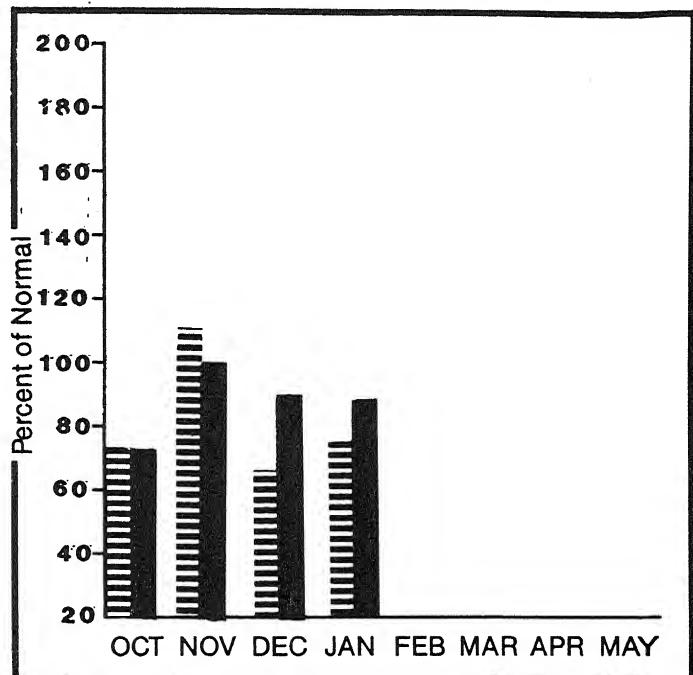
Streamflow forecasts for western Nevada are near or slightly below average. Forecast values for all northern Nevada rivers and creeks are much above average. Streamflow forecast values range from 5 percent below average for the Carson River at Carson City to 35 percent above average for the Franklin River near Arthur, Nevada.

## TAHOE & TRUCKEE BASINS

**Mountain snowpack\* (inches)**



**Precipitation\* (percent of normal)**



\*Based on selected stations

\*Based on selected stations

Maximum

Average



Minimum

Current

Monthly precipitation

Year to date precipitation

### WATER SUPPLY OUTLOOK:

Snowpack accumulations are near normal. This year's water content is approximately 10 percent below the values recorded last year. Reservoir storage is excellent with all storage facilities in the basin at or well above average. Storage in Boca, Prosser, and Stampede reservoirs is less than the amount stored last year at this date. Streamflow forecasts are average to slightly above average for Truckee River gaging stations.

For more information contact your local Soil Conservation Service office.

TAHOE & TRUCKEE BASINS

STREAMFLOW FORECASTS

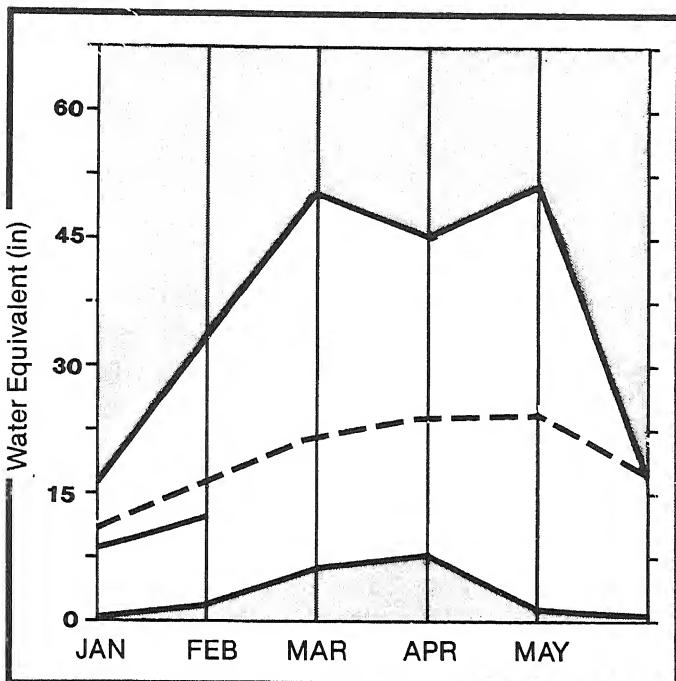
FORECAST POINT	FORECAST PERIOD	20 YR. AVE. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVE.)	REAS. MAX. (% AVE.)	REAS. MIN. (% AVE.)	PEAK FLOW (CFS)	PEAK DATE	LOW FLOW (CFS)	LOW DATE
LAKE TAHOE RISE (assume gates closed)	APR-HIG	1.3	1.2	86	144	0				
TRUCKEE RIVER at Farad, Ca	APR-JUL	269.0	240.0	89	153	25				
LITTLE TRUCKEE RIVER above Boca, Ca	APR-JUL	92.5	70.0	85	152	18				
PYRAMID LAKE RISE	OCT-HIG	-0.6	-0.7	82	150	34				
STEAMBOAT CREEK at Steamboat, Nv	APR-JUL	5.2	4.2	80	125	19				
SAGEHEN CREEK, Ca	APR-JUL	6.5	5.5	84	154	15				
GALENA CREEK nr Steamboat, Nv	APR-JUL	4.4	3.7	84	136	23				

RESERVOIR STORAGE (1000AF)				WATERSHED SNOWPACK ANALYSIS				
RESERVOIR	USEABLE CAPACITY	xx USEABLE STORAGE xx		WATERSHED	NO. COURSES	THIS YEAR AS % OF	LAST YR.	AVERAGE
	THIS YEAR	LAST YEAR	AVE.		AVE.D			
BOCA RESERVOIR	40.9	23.4	15.0	17.4	LAKE TAHOE RISE	12	106	79
LAKE TAHOE	744.6	469.7	521.0	401.5	TRUCKEE BASIN	11	123	86
PROSSER RESERVOIR	28.6	9.1	9.0	7.5	LITTLE TRUCKEE RIVER	1	123	74
STAMPEDE RESERVOIR	226.5	121.9	192.0	102.0	SAGE HEN CREEK	3	103	85
				GALENA CREEK	2	113	88	
				STEAMBOAT DRAINAGE	1	108	80	
				PYRAMID LAKE	23	117	83	

ted for upstream diversions or changes in reservoir storage.  
 \* is for 1961-80 period.

## CARSON & WALKER BASINS

Mountain snowpack\* (inches)



\*Based on selected stations

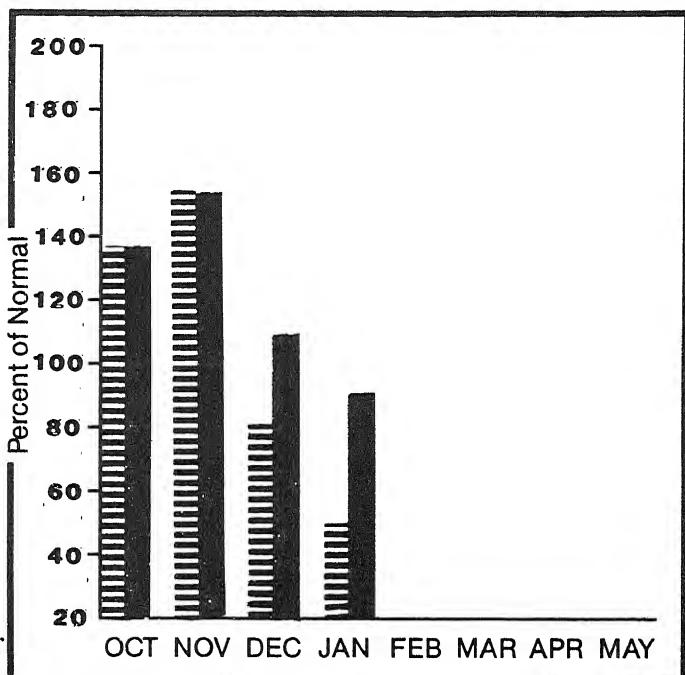
Maximum

Average

Minimum

Current

Precipitation\* (percent of normal)



\*Based on selected stations



Monthly precipitation

Year to date precipitation

## WATER SUPPLY OUTLOOK:

Water content values are average for January 1. Reservoir storage is 10-15 percent below average for the month. Bridgeport and Topaz reservoirs in the Walker drainage are 15 percent below average while Lahontan reservoir in the Carson drainage is 10 percent below average. Bridgeport and Lahontan reservoirs have less stored water this year than last while Topaz Lake has slightly more stored water. Streamflow forecasts are average to slightly below average.

For more information contact your local Soil Conservation Service office.

CARSON & WALKER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	20 YR. AVE. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVE.)	REAS. MAX. (% AVE.)	REAS. MIN. (% AVE.)	PEAK FLOW (CFS)	PEAK DATE	LOW FLOW (CFS)	LOW DATE
EF CARSON RIVER nr Gardnerville, Nv	APR-JUL	187.0	180.0	96	130	62	1753		200	Jun 15
WF CARSON RIVER at Woodfords, Ca	APR-JUL	53.0	49.0	92	126	58				
CARSON RIVER near Carson City, Nv	APR-JUL	182.0	170.0	93	151	36	1900			
CARSON RIVER near Ft. Churchill, Nv	APR-JUL	166.0	150.0	90	157	24	1665			
EAST WALKER RIVER nr Bridgeport, Ca	APR-JUL	66.0	63.0	93	155	36				
WEST WALKER RIVER near Coleville, Ca	APR-JUL	148.0	136.0	91	133	51	1414			
WALKER LAKE RISE	OCT-HIG	-0.5	-0.6	90	145	27				

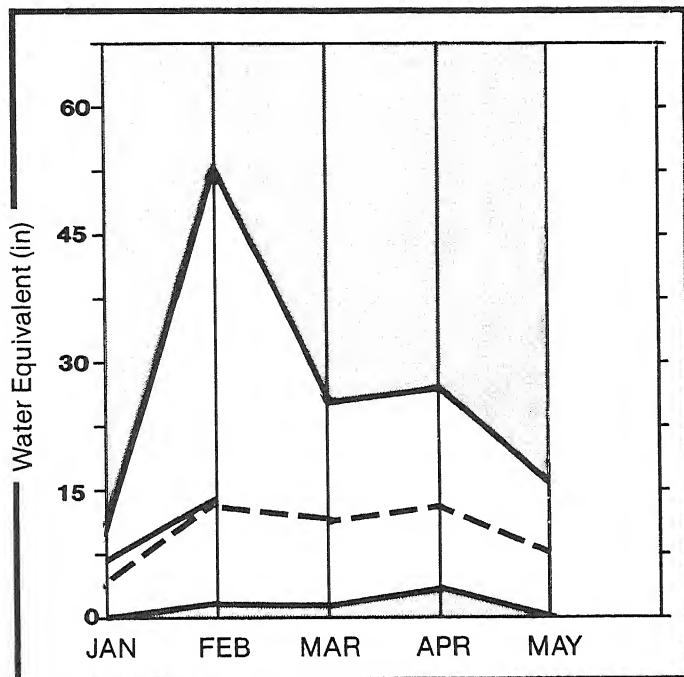
RESERVOIR STORAGE (1000AF) | WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **	WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR. AVERAGE
	THIS YEAR	LAST YEAR	AVE.		
BRIDGEPORT RESERVOIR	42.5	22.8	34.0	28.1	E. CARSON RIVER 7 104 80
LAHONTAN RESERVOIR	295.1	173.4	169.0	193.2	W. CARSON RIVER 5 100 77
TOPAZ RESERVOIR	59.4	27.2	20.0	33.9	CARSON Rv. at Carson City 5 103 81
					CARSON Rv. at Ft. Churchi 5 103 81
					E. WALKER Rv. nr Bridgepo 7 98 83
					W. WALKER Rv. nr Colevill 8 94 79
					WALKER LAKE RISE 10 98 83

\*Corrected for upstream diversions or changes in reservoir storage.  
Average is for 1961-80 period.

## HUMBOLDT BASIN

**Mountain snowpack\* (inches)**



\*Based on selected stations

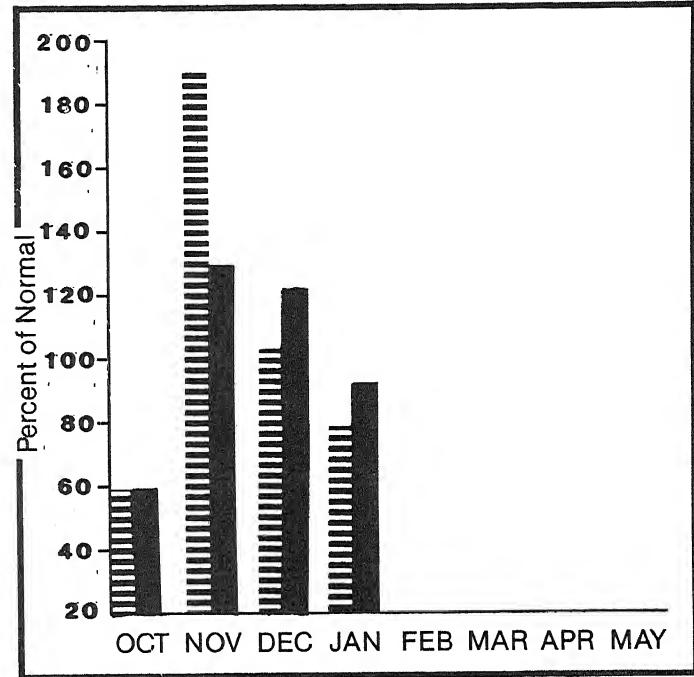
Maximum

Average

Minimum

Current

**Precipitation\* (percent of normal)**



\*Based on selected stations



Monthly precipitation

Year to date precipitation

### WATER SUPPLY OUTLOOK:

Snowpack accumulations are significantly above average for the fourth consecutive year. The January 1 snowpack is approximately 200 percent of average. Basin water year precipitation is above average by about 10 percent. Storage in Rye Patch Reservoir is approximately 30 percent above average for this date. Streamflow forecasts for the Humboldt River are 185 percent of average.

For more information contact your local Soil Conservation Service office.

## HUMBOLDT BASIN

### STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	20 YR. AVE. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVE.)	REAS. MAX. (% AVE.)	REAS. MIN. (% AVE.)	PEAK FLOW (CFS)	PEAK DATE	LOW FLOW (CFS)	LOW DATE
HUMBOLDT RIVER at Palisade	APR-JUL	230.0	245.0	106	193	20				
HUMBOLDT RIVER at Comus	APR-JUL	173.0	180.0	104	215	16				
S FORK HUMBOLDT RIVER at Dixie	APR-JUL	75.0	78.0	104	179	29				
NF HUMBOLDT RIVER at Devils Gate	APR-JUL	34.8	38.0	109	195	23				
MARY'S RIVER nr Deeth	APR-JUL	36.9	39.0	105	163	49				
MARTIN CREEK nr Paradise Nv	APR-JUL	15.8	16.7	105	158	51				
LAMOILLE CREEK nr Lamoille	APR-JUL	28.7	28.0	97	139	56				
REESE RIVER nr Ione Nv	APR-JUL	6.6	7.6	115	197	45				
L. HUMBOLDT RIVER nr Paradise Valley	APR-JUL	9.7	10.6	109	165	52				
ROCK CREEK nr Battle Mtn.	APR-JUL	16.0	17.0	106	181	31				

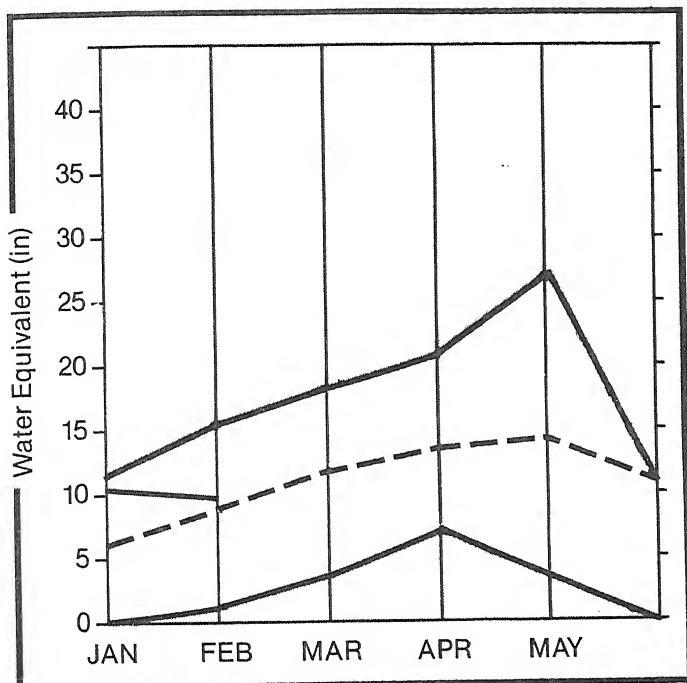
### WATERSHED SNOWPACK ANALYSIS

RESERVOIR	RESERVOIR STORAGE (1000AF)			WATERSHED	NO. COURSES	THIS YEAR AS % OF	
	USEABLE CAPACITY	** USEABLE STORAGE **	THIS YEAR	LAST AVE.	AVE.D	LAST YR.	AVERAGE
RYE PATCH RESERVOIR	194.3	128.2	127.0	94.0	1	117	85
				LAMOILLE CREEK			
				S. FORK HUMBOLDT	4	122	103
				MARY'S RIVER	4	88	92
				N. FORK HUMBOLDT	4	117	125
				HUMBOLDT Rv. at Palisades	8	115	109
				HUMBOLDT RIVER at Comus	8	115	109
				LITTLE HUMBOLDT RIVER	1	69	74
				MARTIN CREEK	2	70	81
				REESE RIVER	1	91	197
				ROCK CREEK	3	80	95

or changes in reservoir storage.

## SNAKE & Owyhee Basins

**Mountain snowpack\* (inches)**



\*Based on selected stations

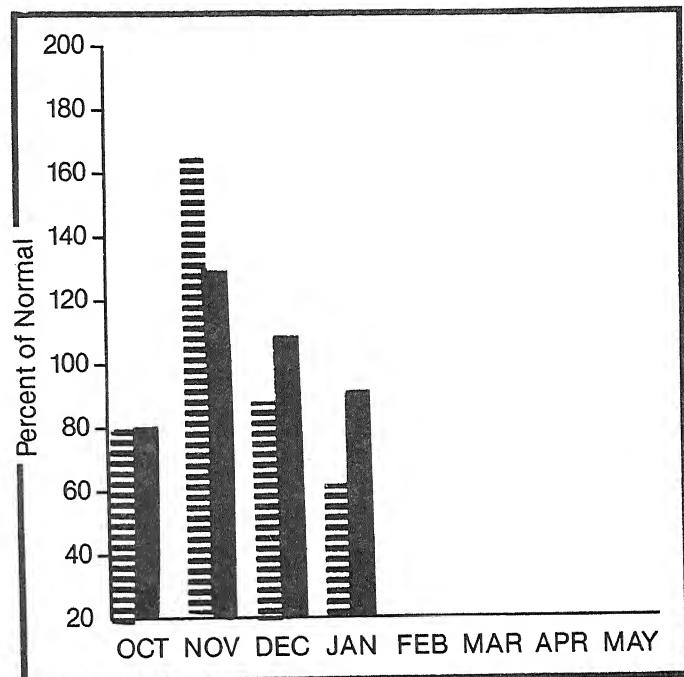
Maximum     

Average     

Minimum     

Current     

**Precipitation\* (percent of normal)**



\*Based on selected stations



Monthly precipitation



Year to date precipitation

### WATER SUPPLY OUTLOOK\*

The accumulated snowpack as of January 1 with was 40 percent above 20 percent above the last year's value. The current snowpack is 40 percent above the average. The current snowpack is well below the last year's value. Streamflow forecasts within the basins are well below the last year's value.

For more information  
Contact the Natural  
Resources Conservation Service

SNAKE & Owyhee Basins

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	20 YR. AVE. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVE.)	REAS. MAX. (% AVE.)	REAS. MIN. (% AVE.)	PEAK FLOW (CFS)	PEAK DATE	LOW FLOW (CFS)	LOW DATE
OWYHEE RIVER nr Gold Creek	APR-JUL	22.0	24.0	109	173	45				
OWYHEE RIVER nr Owyhee	APR-JUL	85.4	86.0	100	164	37				
S FORK Owyhee nr White Rock, Nv	APR-JUL	83.0	85.0	102	165	40				

RESERVOIR STORAGE

(1000AF)

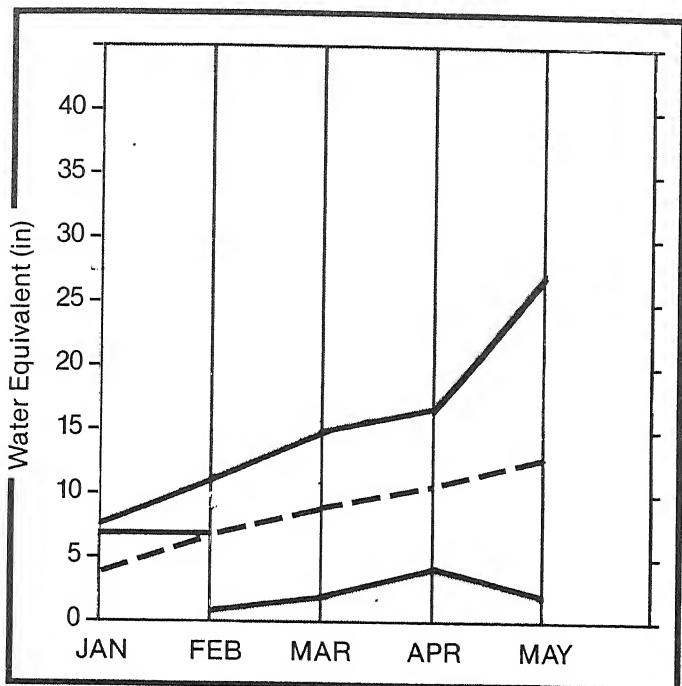
WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVE.			LAST YR.	AVERAGE
WILDHORSE RESERVOIR	71.5	39.4	60.0	27.7	OWYHEE RIVER nr Owyhee	7	99	112
					OWYHEE Rv. nr Gold Creek	2	105	123
					S. FORK Owyhee RIVER	7	99	112
					SALMON FALLS CREEK	4	88	92

\*Corrected for upstream diversions or changes in reservoir storage.  
Average is for 1961-80 period.

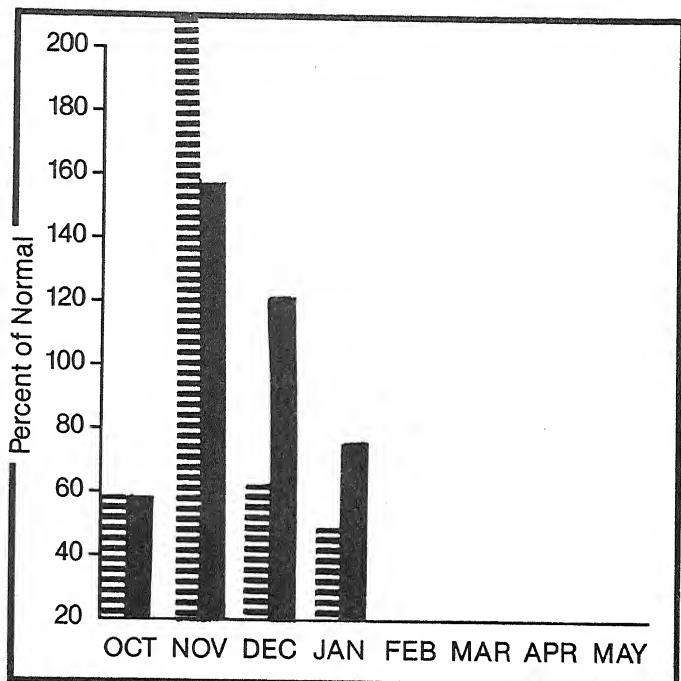
## EASTERN NEVADA

### Mountain snowpack\* (inches)



\*Based on selected stations

**Precipitation\* (percent of normal)**



\*Based on selected stations

Maximum                  Average              
Minimum                  Current

Month	Precipitation (mm)
January	100
February	100
March	100
April	100
May	100
June	100
July	100
August	100
September	100
October	100
November	100
December	100
Year to date	1200

## WATER SUPPLY OUTLOOK:

Snowpack water content accumulation is well above average for January 1. The current water content is approximately equal to the amounts measured last year at this time. Streamflow forecasts for Steptoe Creek and Franklin River are above average by 20 percent and 35 percent respectively.

For more information contact your local Soil Conservation Service office.

EASTERN NEVADA

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	20 YR. AVE. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVE.)	REAS. MAX. (% AVE.)	REAS. MIN. (% AVE.)	PEAK FLOW (CFS)	PEAK DATE	LOW FLOW (CFS)	LOW DATE
STEPTOE CREEK nr Ely	APR-JUL	2.0	2.4	119	206	50				
KINGSTON CREEK nr Austin, Nv	APR-JUL	3.3	3.6	109	182	30				
FRANKLIN RIVER nr Arthur	APR-JUL	5.9	6.8	115	186	34				

RESERVOIR STORAGE (1000AF)

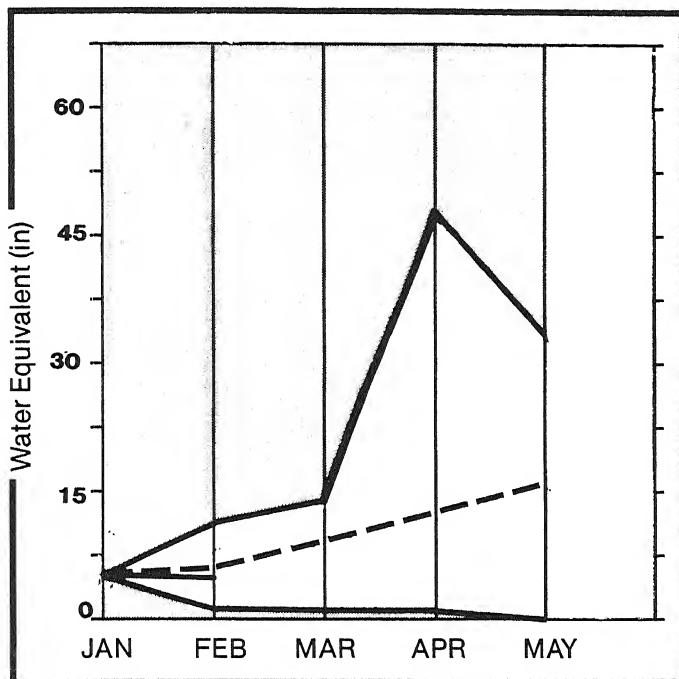
WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY 1 YEAR	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVE.			LAST YR.	AVERAGE
					FRANKLIN RIVER	2	97	88
					KINGSTON CREEK	1	91	197
					EASTERN NEVADA	2	93	121
					STEPTOE VALLEY	1	111	110

\*Corrected for upstream diversions or changes in reservoir storage.  
Average is for 1961-80 period.

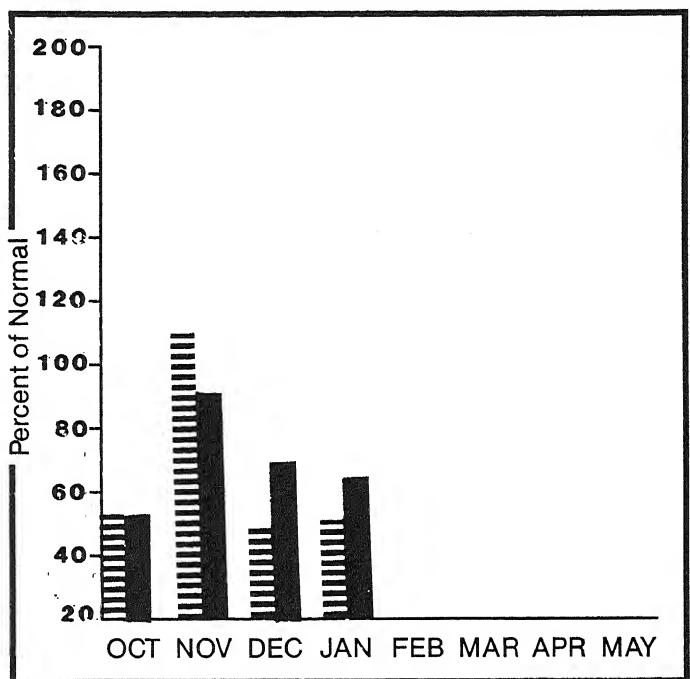
## NORTHERN GREAT BASIN

**Mountain snowpack\* (inches)**



\*Based on selected stations

**Precipitation\* (percent of normal)**



\*Based on selected stations

Maximum

Average

Minimum

Current

Monthly precipitation

Year to date precipitation

### **WATER SUPPLY OUTLOOK:**

Snowpack accumulations in this basin are variable. Water content values in the western and southern portions are below average while water content in the eastern and northern portions is above average. All water content values are below those reported last year. Streamflow forecasts for the Quinn River, East Fork Quinn River, and McDermitt Creek are approximately 15 percent above average. Streamflow forecast values for Deep Creek, Eagle Creek, and Mill Creek are approximately 10 percent below average.

For more information contact your local Soil Conservation Service office.

NORTHERN GREAT BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	20 YR. AVE. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVE.)	REAS. MAX. (% AVE.)	REAS. MIN. (% AVE.)	PEAK FLOW (CFS)	PEAK DATE	LOW FLOW (CFS)	LOW DATE
BIDWELL CREEK nr Fort Bidwell	APR-JUL	12.0	10.6	88	150	25				
DEEP CREEK nr Cedarville, Ca	APR-JUL	3.6	3.1	86	139	28				
EAGLE CREEK nr Eagleville, Ca	APR-JUL	4.3	3.9	90	163	23				
MILL CREEK nr Cedarville, Ca	APR-JUL	4.1	3.6	87	146	24				
QUINN RIVER nr McDermitt, Nv	APR-JUL	16.0	15.7	98	156	44				
E. FORK QUINN RIVER nr McDermitt	APR-JUL	13.0	13.1	100	154	46				
MCDERMITT CREEK nr McDermitt	APR-JUL	12.0	12.6	105	158	50				

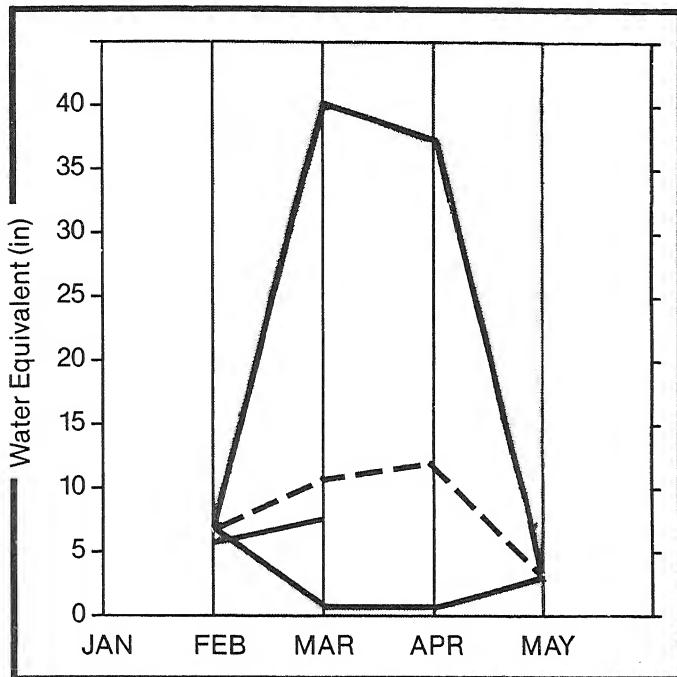
RESERVOIR STORAGE (1000AF) | WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE CAPACITY	xx USEABLE STORAGE xx	WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR. AVERAGE
	THIS YEAR	LAST YEAR			
	YEAR	AVE.			
			BIDWELL	4	67 75
			MILL CREEK	1	82 103
			DEEP CREEK	1	82 103
			EAGLE CREEK	1	82 103
			QUINN RIVER	2	78 78
			E. FORK QUINN	2	78 78
			MCDERMITT CREEK	2	78 78

\*Corrected for upstream diversions or changes in reservoir storage.  
verage is for 1961-80 period.

## SOUTHERN NEVADA

Mountain snowpack\* (inches)



\*Based on selected stations

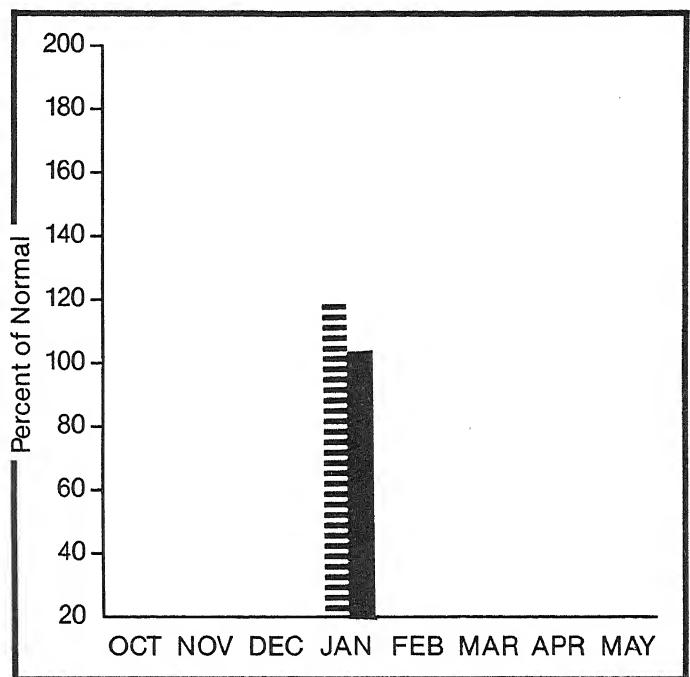
Maximum

Average

Minimum

Current

Precipitation\* (percent of normal)



\*Based on selected stations



Year to date precipitation

## WATER SUPPLY OUTLOOK:

Snowpack accumulations in the mountains supplying water for the Virgin River are approximately 15 percent above average for January 1. Storage in Lake Mohave is about 10 percent below average while storage in Lake Mead is about 30 percent above average. Both storage values are less than those recorded last year at this time. The streamflow forecast for the Virgin River near Hurricane, Utah is 85 percent above the 20 year average.

For more information contact your local Soil Conservation Service office.

**SOUTHERN NEVADA**

**STREAMFLOW FORECASTS**

FORECAST POINT	FORECAST PERIOD	20 YR. AVE. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVE.)	REAS. MAX. (% AVE.)	REAS. MIN. (% AVE.)	PEAK FLOW (CFS)	PEAK DATE	LOW FLOW (CFS)	LOW DATE
VIRGIN RIVER near Hurricane, UT	APR-JUL	62.0	50.0	80	127	35				
LAKE POWELL inflow	APR-JUL	7462.0	9500.0	127	170	89				

**RESERVOIR STORAGE**

(1000AF)

**WATERSHED SNOWPACK ANALYSIS**

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVE.D	THIS YEAR AS % OF LAST YR. AVERAGE
	1 YEAR	THIS YEAR	LAST AVE.				
LAKE MOHAVE	1810.0	1647.0	1715.2	1671.0	VIRGIN Rv. at Littlefield	4	58 72
LAKE MEAD	26159.0	23147.0	23938.0	18312.0	VIRGIN Rv. at Hurricane,	4	58 72

\*Corrected for upstream diversions or changes in reservoir storage.  
Average is for 1961-80 period.

BASIN AVERAGE SNOW WATER CONTENT,  
PERCENT OF FEBRUARY 1 AVERAGE

